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US

November 20, 2017

James H. Booth
President
Southeastern Land, LLC
P.O. Box 190
Lovely, KY 41231

By Certified Mail – Return Receipt Requested

Re: 60-Day Notice of Intent to File Citizen Suit Under Clean Water Act and SMCRA for Violations at Fola's Ike Fork No. 1 Surface Mine

Dear Mr. Booth:

The Sierra Club, Ohio Valley Environmental Coalition, the West Virginia Highlands Conservancy, and the West Virginia Rivers Coalition (collectively "WV Environmental Groups"), in accordance with section 505(b)(1) of the Clean Water Act ("CWA"), 33 U.S.C. § 1365(b)(1) and 40 C.F.R. Part 135, hereby notify you that Fola Coal Company, LLC ("Fola") and Southeastern Land, LLC ("Southeastern") have violated and continue to violate "an effluent standard or limitation" under Section 505(a)(1)(A) of the Act, 33 U.S.C. § 1365(a)(1)(A) and (f)(6), by failing to comply with conditions in the terms and conditions of its WV/NPDES Permit No. WV1017951 issued by the West Virginia Department of Environmental Protection (WVDEP) for its Ike Fork No. 1 Surface Mine in Clay and Nicholas Counties, West Virginia. If within sixty days of the postmark of this letter Fola and Southeastern do not bring themselves into full compliance with the Act, we intend to file a citizen's suit. The WV Environmental Groups will seek declaratory and injunctive relief for Fola's and Southeastern's ongoing and continuing violations and an injunction compelling Fola and Southeastern to come into compliance with the Act.

We further notify you, in accordance with section 520 of the federal Surface Mining Control and Reclamation Act ("SMCRA"), 30 U.S.C. § 1270, and 30 C.F.R. § 700.13, that Fola and Southeastern are in ongoing and continuing violation of certain federal and state regulations promulgated under SMCRA and the West Virginia Surface Coal Mining and Reclamation Act ("WVSCRMA" or the "State Act") and certain permit conditions of its West Virginia Surface Mining Permit No. S201298 as a result of their discharges of pollutants into Sycamore Run. If, within sixty days, Fola and Southeastern do not bring themselves into full compliance with SMCRA, the regulations promulgated under SMCRA and the WVSCMRA, and its Surface Mining Permit, the WV Environmental Groups intend to file a citizens' suit in federal court seeking an injunction compelling Fola and Southeastern to come into compliance with the applicable statutes, regulations, and permits.

Southeastern purchased the Ike Fork No. 1 Surface Mine from Fola Coal Company, LLC pursuant to Purchase and Sale Agreement that was effective on July 19, 2016. At the time of this

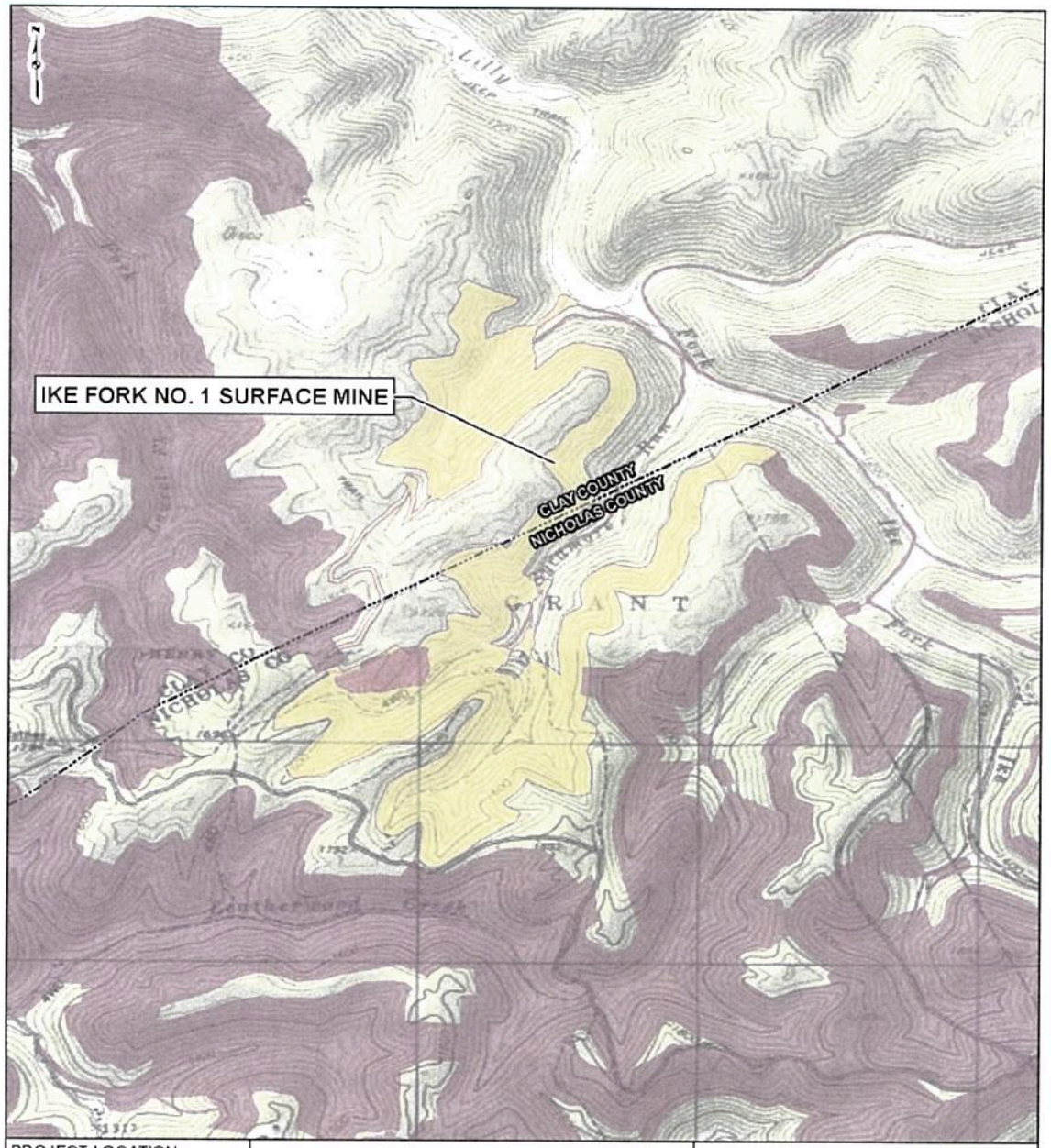
letter, the CWA and SMCRA permits are still in Fola's name, and may be in the process of being transferred to Southeastern. In the remainder of this letter, we will refer to the permittee as Fola.

Violations of Mining Permit. Fola's mining activities at the Ike Fork No. 1 mine are regulated under West Virginia Surface Mining Permit S201298. That Permit was renewed on February 16, 2017 and is still in effect. The WVSCMRA provides that "[a]ny permit issued by the director pursuant to this article to conduct surface mining operations shall require that the surface mining operations meet all applicable performance standards of this article and other requirements set forth in legislative rules proposed by the director." W. Va. Code § 22-3-13(a). In turn, WVDEP's regulations under that statute provide that "[t]he permittee shall comply with the terms and conditions of the permit, all applicable performance standards of the Act, and this rule." 38 C.S.R. § 2-3.33.c. As shown below in Part I, Fola is violating the standards that "[d]ischarge from areas disturbed by surface mining shall not violate effluent limitations or cause a violation of applicable water quality standards." *Id.* § 2-14.5.b; 30 C.F.R. § 816.42. In addition, Fola is violating the performance standard that requires it to construct systems that will effectively treat its effluent to levels that comply with all applicable water quality standards. 38 C.S.R. § 2-14.5.c.

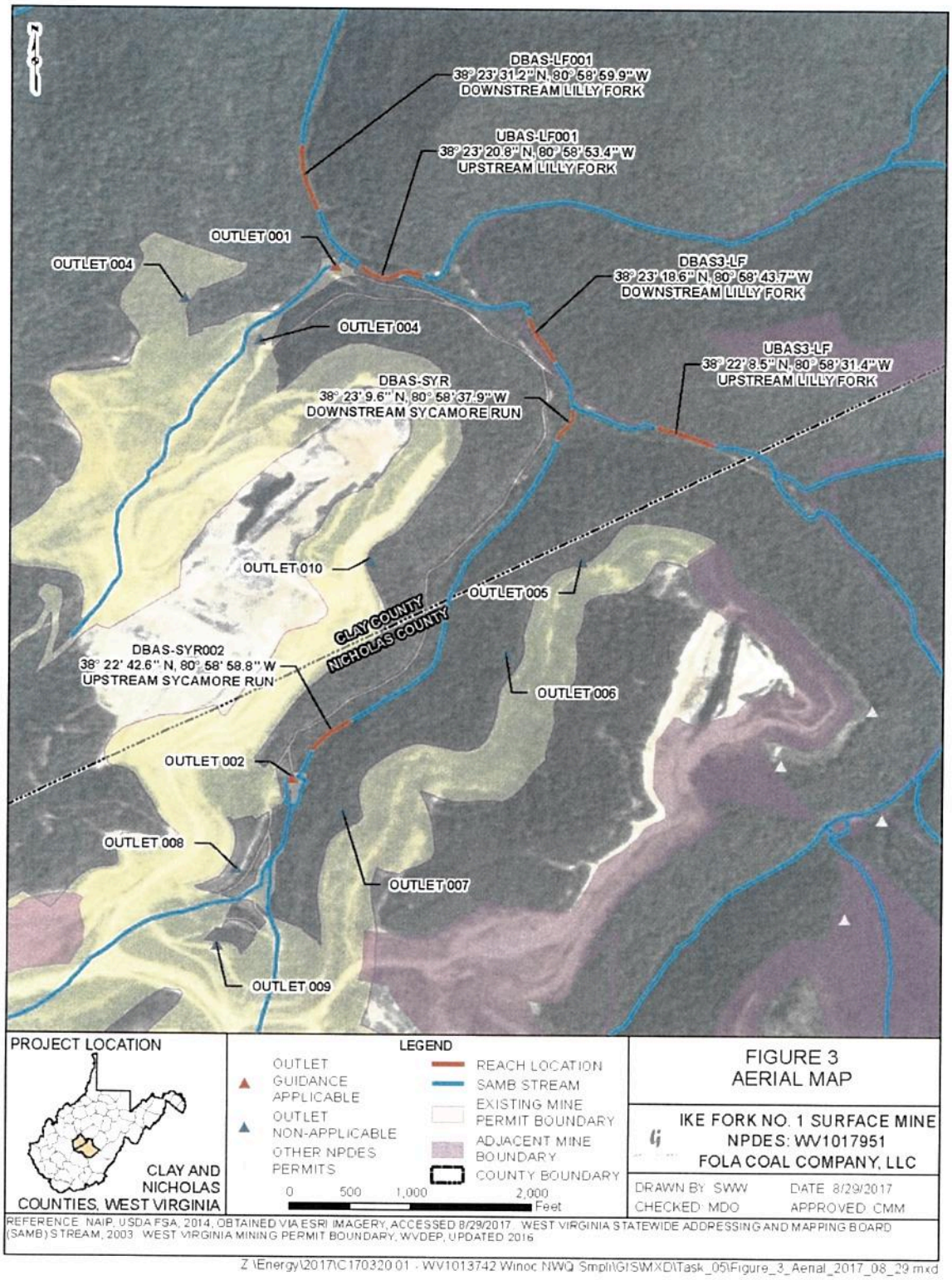
Violations of WV/NPDES Permit. Fola's water discharge activities at the Ike Fork No. 1 mine are regulated under WV/NPDES Permit No. WV1017951. That permit was reissued on March 12, 2014 to Fola and is still in effect. Part C of that permit incorporates by reference 47 C.S.R. § 30-5.1.f, which provides that: "The discharge or discharges covered by a WV/NPDES permit are to be of such quality so as not to cause violation of applicable water quality standards adopted by the Department of Environmental Protection, Title 47, Series 2." WVDEP's narrative water quality standards prohibit discharges of "[m]aterials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life" or that cause "significant adverse impacts to the chemical, physical, hydrologic, or biological components of aquatic ecosystems." 47 C.S.R. §§ 2-3.2.e & 2-3.2.i. Fola is violating this permit condition by discharging ionic pollutants, measured as conductivity, from Outlet 002 that are causing or materially contributing to biological impairment in Sycamore Run and Lily Fork, and violations of water quality standards in those streams, as described in Part I below.

I. Violations of Water Quality Standards at Fola's Ike Fork No. 1 Surface Mine

Permit No. WV1017951 regulates discharges from Outlet 002 of Ike Fork No. 1 Surface Mine, which discharges into Sycamore Run, which flows into Lily Fork, then into Buffalo Creek, and then into the Elk River. A map showing the location of the mine and these streams is below:



Outlet 002 discharges at the locations shown on the following map:



WVDEP's March 23, 2001 Cumulative Hydrologic Impact Assessment (CHIA) for Fola's Ike Fork No. 1 Surface Mine stated that in 1999, prior the start of that mine, the pH in Lilly Fork downstream from Sycamore Run ranged from 6.00 to 7.20, total dissolved solids

averaged 210.71 mg/l, and sulfates averaged 127.14 mg/l. CHIA at 19. Between 1989 and 1999, prior to mining, the pH in the main stem of Sycamore Run directly above its confluence with Lilly Fork ranged from 4.10 to 7.20, total dissolved solids averaged 27 mg/l, and sulfates averaged 12.12 mg/l. *Id.* at 28-29. The 1999 Statement of Probable Hydrologic Consequences in Vandalia Resources' application for a mining permit stated that at sampling sites SR-1, SR-2 and SR3 on Sycamore Run, concentrations of TDS, conductivity and sulfate were low, and that "this is typical of an undisturbed watershed." PHC at J-89 to J-90. In addition, prior to mining at the Ike Fork No. 1 site, Fola's consultant, Potesta & Associates, Inc., conducted benthic sampling in Sycamore Run at Location IF-19, which was downstream from planned Outlet 002. The conductivity at that location was 43 µS/cm, the habitat assessment score was 130, and the WVSCI score was 84.85. Fola, Results of Fish and Benthic Macroinvertebrate Surveys (Oct. 2006), at 8, 12, 16.

Fola's discharge monitoring reports since July 2016 show that it discharged the following maximum amounts of specific conductance (Cond), pH, calcium (Ca), magnesium (Mg), sodium (Na), potassium (K), sulfates (SO_4) and total dissolved solids (TDS) from Outlet 002:

Table A—Outfall 002								
	Cond	pH	Ca	Mg	Na	K	SO_4	TDS
Jul-16	2500	8.45	186	194	153	15.5	1480	2150
Aug-16	2460	8.44	169	199	132	15.9	1380	2130
Sep-16	2500	8.01	182	213	150	17.6	1600	2190
Oct-16	2550	8.65	172	202	160	17.3	1500	2070
Nov-16	2380	8.85	152	177	170	16.1	1460	2010
Dec-16	2520	8.7	173	196	168	16	1530	2110
Jan-17	1940	8.9	156	161	86.1	13.5	1200	1610
Feb-17	2240	8.98	175	184	95.8	15	1310	1850
Mar-17	2120	8.7	177	192	98.2	14.4	1320	1820
Apr-17	2120	8.65	145	163	93.8	13.5	1160	1660
May-17	2100	8.9	147	173	110	13.5	1230	1720
Jun-17	2310	8.81	146	184	137	15.1	1300	2270

In May 2012, May 2015, May 2016, and May 2017, Fola's consultants conducted benthic macroinvertebrate, instream habitat, and water quality sampling at six biological assessment stations (BAS) at the Ike Fork No. 1 Surface Mine. Four of those relate to Outlet 002. Station DBAS-SYR002 was located in Sycamore Run, immediately downstream from Outlet 002. Station DBAS-SYR was located in Sycamore Run, near its confluence with Lilly Fork. Station UBAS3-LF was located in Lilly Fork, upstream of its confluence with Sycamore Run. Station DBAS3-LF was located in Lilly Fork, downstream of its confluence with Sycamore Run. These four locations are shown on the map on page 4 above. The results of this sampling are contained in the table below:

Table B				
Station	**Date**	**Habitat Score**	**WVSCI Score**	**Conductivity**
DBAS-SYR002	5/23/12	139	**53.3**	1850
	5/19/15	140	**35.4**	2642
	5/24/16	149	**53.4**	2257
	5/30/17	154	**52.1**	2200
DBAS-SYR	5/23/12	154	**65.3**	1589
	5/19/15	142	**70.9**	2218
	5/24/16	151	**59.1**	2061
	5/30/17	156	**60.1**	2095
UBAS3-LF	5/23/12	147	**56.4**	1130
	5/19/15	155	**54.0**	1608
	5/24/16	158	**54.5**	1065
	5/30/17	155	**53.8**	1437
DBAS3-LF	5/23/12	160	**64.3**	1184
	5/19/15	163	75.8	1646
	5/24/16	161	**64.4**	1255
	5/30/17	157	**63.7**	1370

According to WVDEP's draft 2016 Section 303(d) List (p. 8), streams are biologically impaired when their West Virginia Stream Condition Index (WVSCI) scores are below 72. The reported WVSCI scores at the three stations downstream from Outlet 002 were below 72 in all but one instance in 2012, 2015, 2016 and 2017. The habitat scores at all three stations were in the optimal or sub-optimal range. Therefore, the low WVSCI scores cannot be explained by poor habitat.

In 2011, EPA scientists summarized the existing science connecting conductivity and biological degradation in an EPA report entitled, "A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams." That report, which was peer-reviewed by top scientists on EPA's Science Advisory Board, used EPA's standard method for deriving water quality criteria to derive a conductivity benchmark of 300 µS/cm. *Id.* at xiv-xv. According to the species sensitivity distribution in the benchmark, on average, five percent of species are lost when conductivity rises to 295 µS/cm, over 50% are lost at 2000 µS/cm, and close to 60% are lost at 3000 µS/cm. *Id.* at 18. EPA considered potential confounding factors, including habitat, temperature, deposited sediments and pH, and concluded that none of them altered the relationship between conductivity and biological decline or the benchmark value of 300 µS/cm. Id. at 41, B-22. EPA found that the loss of aquatic species from increased conductivity was "a severe and clear effect." *Id.* at A-37. EPA also conducted a detailed causal assessment and concluded that there is a causal relationship between conductivity and stream impairment in West Virginia. *Id.* at A-39. Finally, EPA's benchmark report analyzed the relationship between the WVSCI biological impairment threshold and conductivity levels, and found that a WVSCI score of 64 (close to the impairment threshold of 68) corresponds to streams with conductivity of about 300 µS/cm on average. *Id.* at A-36. A statistical analysis included in the benchmark

determined that at a conductivity level of 300 µS/cm a stream is 59% likely to be impaired and at 500 µS/cm a stream is 72% likely to be impaired. *Id.*

The ions found coming out of Outlet 002 are consistent with those associated with coal mining pollution in this region (Pond et al. 2008; Palmer et al. 2010; Bernhardt and Palmer 2011; Lindberg et al. 2012; Pond et al. 2010; Pond et al. 2012; Pond et al. 2014; Kunz 2013). The ionic mixture of calcium, magnesium, sulfate, and bicarbonate in alkaline mine water causes the loss of aquatic macroinvertebrates in Appalachian areas where surface coal mining is prevalent; it is the mixture of ions that causes the biological impairment (Cormier et al. 2013b; Cormier and Suter 2013). This mixture also has significant adverse effects on fish assemblages (Hitt 2014; Hopkins 2013) and has toxic effects on aquatic life, including mayflies (Kunz 2013; Echols 2010; Kennedy 2002).

Bernhardt et al. (2012) concluded that:

> The extent of surface mining within catchments is highly correlated with the ionic strength and sulfate concentrations of receiving streams. Generalized additive models were used to estimate the amount of watershed mining, stream ionic strength, or sulfate concentrations beyond which biological impairment (based on state biocriteria) is likely. We find this threshold is reached once surface coal mines occupy >5.4% of their contributing watershed area, ionic strength exceeds 308 µS cm^{-1}, or sulfate concentrations exceed 50 mg L^{-1}.

A 2016 study using simulated mine effluents in an experimental stream under controlled conditions measured the same adverse effects on aquatic organisms at conductivity levels of 300 µS/cm and lower (Clements and Kotalik 2016).

Fola's Ike Fork No. 1 Surface Mine is a major development activity covering a large area in the Lilly Fork watershed. The high mining intensity in that watershed and the related discharges from Outlet 002 have likely caused or materially contributed to biological impairment in Sycamore Run and Lilly Fork.

In sum, the available evidence shows that, as a result of mining operations at its Ike Fork No. 1 Surface Mine, Sycamore Run has elevated chemical ions, including sulfate, calcium, and magnesium, measured as increased conductivity, and biologically impaired aquatic life. Fola is discharging high levels of ionic pollutants, measured as conductivity, from Outlet 002 that are causing or materially contributing to biological impairment and violations of the narrative water quality standard for biological integrity in Sycamore Run and Lilly Fork.

II. Legal Claims

A. CWA

The CWA authorizes citizens to sue "any person . . . who is alleged to be in violation of . . . an effluent standard or limitation under this chapter." 33 U.S.C. § 1365(a)(1). An "effluent standard or limitation under this chapter" is defined to include "a permit or condition thereof."

Id., § 1365(f))(6). A person who violates a condition in a condition of an NPDES permit is therefore in violation of the CWA and subject to a citizen enforcement action under the CWA. Based on the available evidence of continuing high conductivity levels, and the absence of any corrective measures taken by Southeastern since it purchased the mine from Fola in July 2016, we believe that Fola's violations of the narrative water quality standards in 47 C.S.R. § 2-3.2.e & i. are violations of its permit and can be enforced by WV Environmental Groups. The federal court in West Virginia has repeatedly enforced this same standard against mines with similar violations. *See OVEC v. Elk Run Coal Co.,* 24 F. Supp. 3d 532 (S.D. W.Va. 2014); *OVEC v. Fola Coal Co., LLC (Stillhouse)*, 82 F. Supp. 3d 673 (S.D. W.Va. 2015), *aff'd*, 845 F.3d 133 (4th Cir. 2017); *OVEC v. Fola Coal Co. (Leatherwood)*, 120 F. Supp. 3d 509 (S.D. W.Va. 2015); *OVEC v. Fola Coal Co. (Monoc)*, 2017 WL 2312478 (S.D. W.Va. 2017). If Fola does not cease those violations within 60 days, we intend to bring a citizen suit against Fola under Section 505(a)(1) of the CWA seeking declaratory and injunctive relief.

B. SMCRA

Section 520(a)(1) of SMCRA authorizes citizens to commence civil actions against any person alleged to be in violation of rules, orders, or permits issued pursuant to SMCRA. 30 U.S.C. § 1270(a)(1). West Virginia has a federally-approved mining program under SMCRA which is administered by the WVDEP pursuant to the WVSCMRA. Violations of a federally-approved state program are enforceable in federal court under SMCRA's citizen suit provision. *Molinary v. Powell Mountain Coal Co., Inc.*, 125 F.3d 231, 237 (4th Cir. 1997). We believe that Fola is in continuous and ongoing violation of the state and federal performance standards that prohibit mining operations from causing violations of water quality standards. 38 C.S.R. § 2-14.5.b; 30 C.F.R. § 816.42. In addition, Fola's mining operations have resulted in impermissible and ongoing material damage to the hydrologic balance, in violation of 38 C.S.R. § 2-14.5. Fola is also in continuing violation of its legal duty to treat its effluent to ensure that it does not violate water quality standards. 38 C.S.R. § 2-14.5.c; 30 C.F.R. § 816.41(d)(1). These standards require Fola to construct systems that will effectively treat its effluent to levels that comply with all applicable water quality standards. Finally, Fola's violations of the performance standards that prohibit violations of water quality standards and material damage and that require adequate treatment to avoid such violations are violations of its mining permit S201298. By operation of 38 C.S.R. § 2-33.c, those permits incorporate the performance standards discussed in this letter as terms of the permits themselves. Consequently, Fola is violating its SMCRA permit.

CONCLUSION

If Fola has taken any steps to eradicate the underlying cause of the violations described above, or if Fola believes that anything in this letter is inaccurate, please let us know. If Fola does not advise us of any remedial steps during the 60-day period, we will assume that no such steps have been taken and that violations are likely to continue. Additionally, we would be happy to meet with Fola or its representatives to attempt to resolve these issues within the 60-day notice period.

Sincerely,

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November 20, 2017

James H. Booth
President
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By Certified Mail – Return Receipt Requested

Re: 60-Day Notice of Intent to File Citizen Suit Under Clean Water Act and SMCRA for Violations at Southeastern's Peachorchard Surface Mine No. 5

Dear Mr. Booth:

The Sierra Club, Ohio Valley Environmental Coalition, the West Virginia Highlands Conservancy, and the West Virginia Rivers Coalition (collectively "WV Environmental Groups"), in accordance with section 505(b)(1) of the Clean Water Act ("CWA"), 33 U.S.C. § 1365(b)(1) and 40 C.F.R. Part 135, hereby notify you that Southeastern Land, LLC ("Southeastern") has violated and continues to violate "an effluent standard or limitation" under Section 505(a)(1)(A) of the Act, 33 U.S.C. § 1365(a)(1)(A) and (f)(6), by failing to comply with the terms and conditions of its WV/NPDES Permit No. WV1017969 issued by the West Virginia Department of Environmental Protection (WVDEP) for its Peachorchard Surface Mine No. 5 in Nicholas County, West Virginia. If within sixty days of the postmark of this letter Southeastern does not bring itself into full compliance with the Act, we intend to file a citizen's suit. The WV Environmental Groups will seek declaratory and injunctive relief for Southeastern's ongoing and continuing violations and an injunction compelling Southeastern to come into compliance with the Act.

We further notify you, in accordance with section 520 of the federal Surface Mining Control and Reclamation Act ("SMCRA"), 30 U.S.C. § 1270, and 30 C.F.R. § 700.13, that Southeastern is in ongoing and continuing violation of certain federal and state regulations promulgated under SMCRA and the West Virginia Surface Coal Mining and Reclamation Act ("WVSCRMA" or the "State Act") and certain permit conditions of its West Virginia Surface Mining Permit No. S201398 as a result of its discharges of pollutants into Peachorchard Branch and Twentymile Creek. If, within sixty days, Southeastern does not bring itself into full compliance with SMCRA, the regulations promulgated under SMCRA and the WVSCMRA, and its Surface Mining Permit, the WV Environmental Groups intend to file a citizens' suit in federal court seeking an injunction compelling Southeastern to come into compliance with the applicable statutes, regulations, and permits.

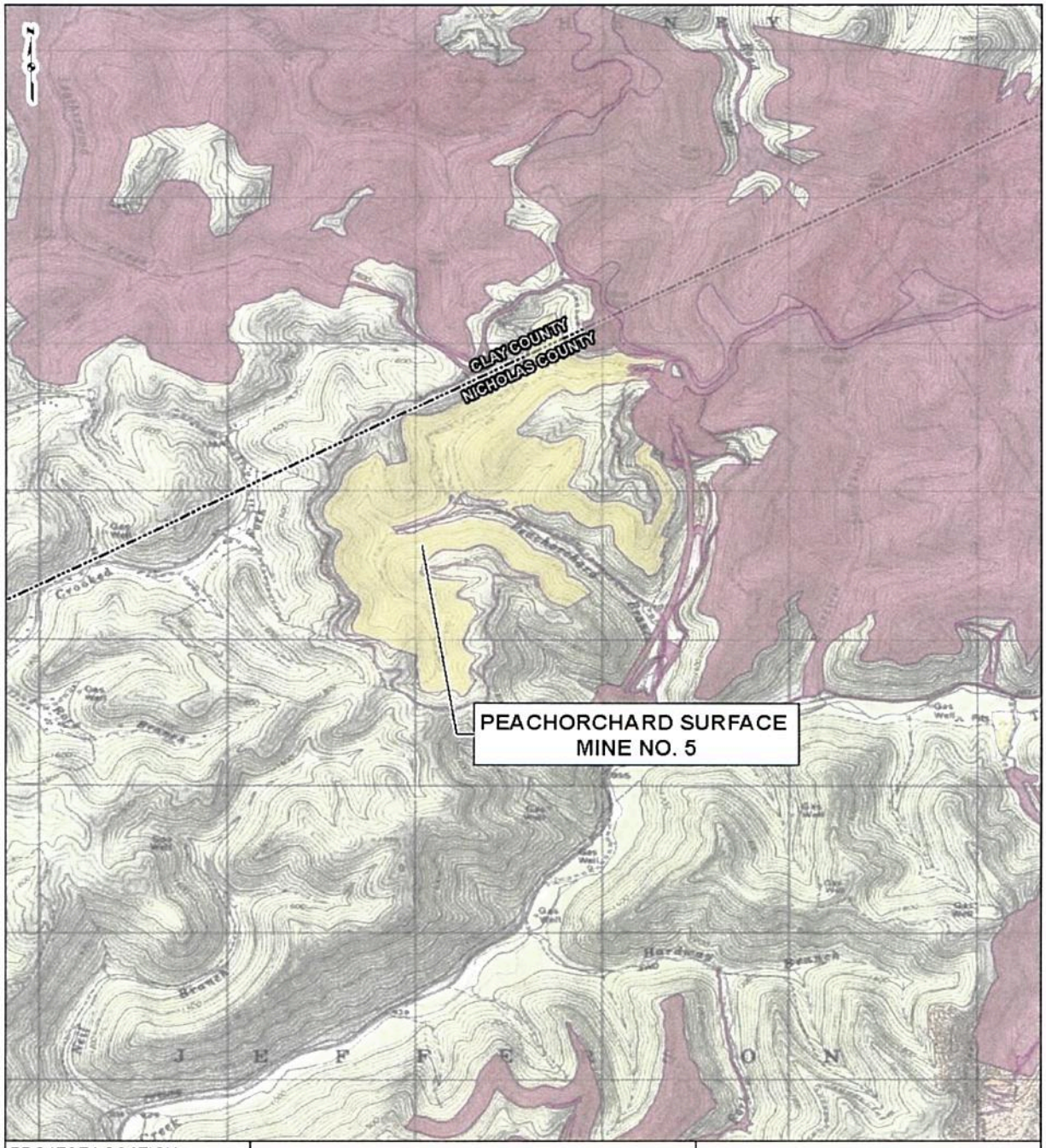
Southeastern purchased the Peachorchard Surface Mine No. 5 from Fola Coal Company, LLC pursuant to Purchase and Sale Agreement that was effective on July 19, 2016.

Violations of Mining Permit. Southeastern's mining activities at the Peachorchard mine are regulated under West Virginia Surface Mining Permit S201398. That Permit was renewed on July 14, 2014 and transferred to Southeastern on August 23, 2017. The WVSCMRA provides that "[a]ny permit issued by the director pursuant to this article to conduct surface mining operations shall require that the surface mining operations meet all applicable performance standards of this article and other requirements set forth in legislative rules proposed by the director." W. Va. Code § 22-3-13(a). In turn, WVDEP's regulations under that statute provide that "[t]he permittee shall comply with the terms and conditions of the permit, all applicable performance standards of the Act, and this rule." 38 C.S.R. § 2-3.33.c. As shown below in Part I, Southeastern is violating the standards that "[d]ischarge from areas disturbed by surface mining shall not violate effluent limitations or cause a violation of applicable water quality standards." *Id.* § 2-14.5.b; 30 C.F.R. § 816.42. In addition, Southeastern is violating the performance standard that requires it to construct systems that will effectively treat its effluent to levels that comply with all applicable water quality standards. 38 C.S.R. § 2-14.5.c.

Violations of WV/NPDES Permit. Southeastern's water discharge activities at the Peachorchard mine are regulated under WV/NPDES Permit No. WV1017969. That permit was reissued on March 17, 2015 and transferred to Southeastern Land, LLC on October 2, 2017. Part C of that permit incorporates by reference 47 C.S.R. § 30-5.1.f, which provides that: "The discharge or discharges covered by a WV/NPDES permit are to be of such quality so as not to cause violation of applicable water quality standards adopted by the Department of Environmental Protection, Title 47, Series 2." WVDEP's narrative water quality standards prohibit discharges of "[m]aterials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life" or that cause "significant adverse impacts to the chemical, physical, hydrologic, or biological components of aquatic ecosystems." 47 C.S.R. §§ 2-3.2.e & 2-3.2.i. Southeastern is violating this permit condition by discharging ionic pollutants, measured as conductivity, from Outlets 001 and 004 that are causing or materially contributing to biological impairment in Peachorchard Branch and Twentymile Creek, and violations of water quality standards in those streams, as described in Part I below.

I. Violations of Water Quality Standards at Southeastern's Peachorchard Surface Mine No. 5

Permit No. WV1017969 regulates discharges from Outlets 001 and 004 of Peachorchard Surface Mine No. 5, which discharge into Peachorchard Branch of Twentymile Creek. Twentymile Creek is a tributary of the Elk River. A map showing the location of the mine, Peachorchard Branch, and Twentymile Creek is below:



PROJECT LOCATION

NICHOLAS COUNTY, WEST VIRGINIA

LEGEND

EXISTING MINE PERMIT BOUNDARY

ADJACENT MINE BOUNDARY

COUNTY BOUNDARY

0 1,500 3,000 6,000 Feet

FIGURE 1
PROJECT VICINITY MAP

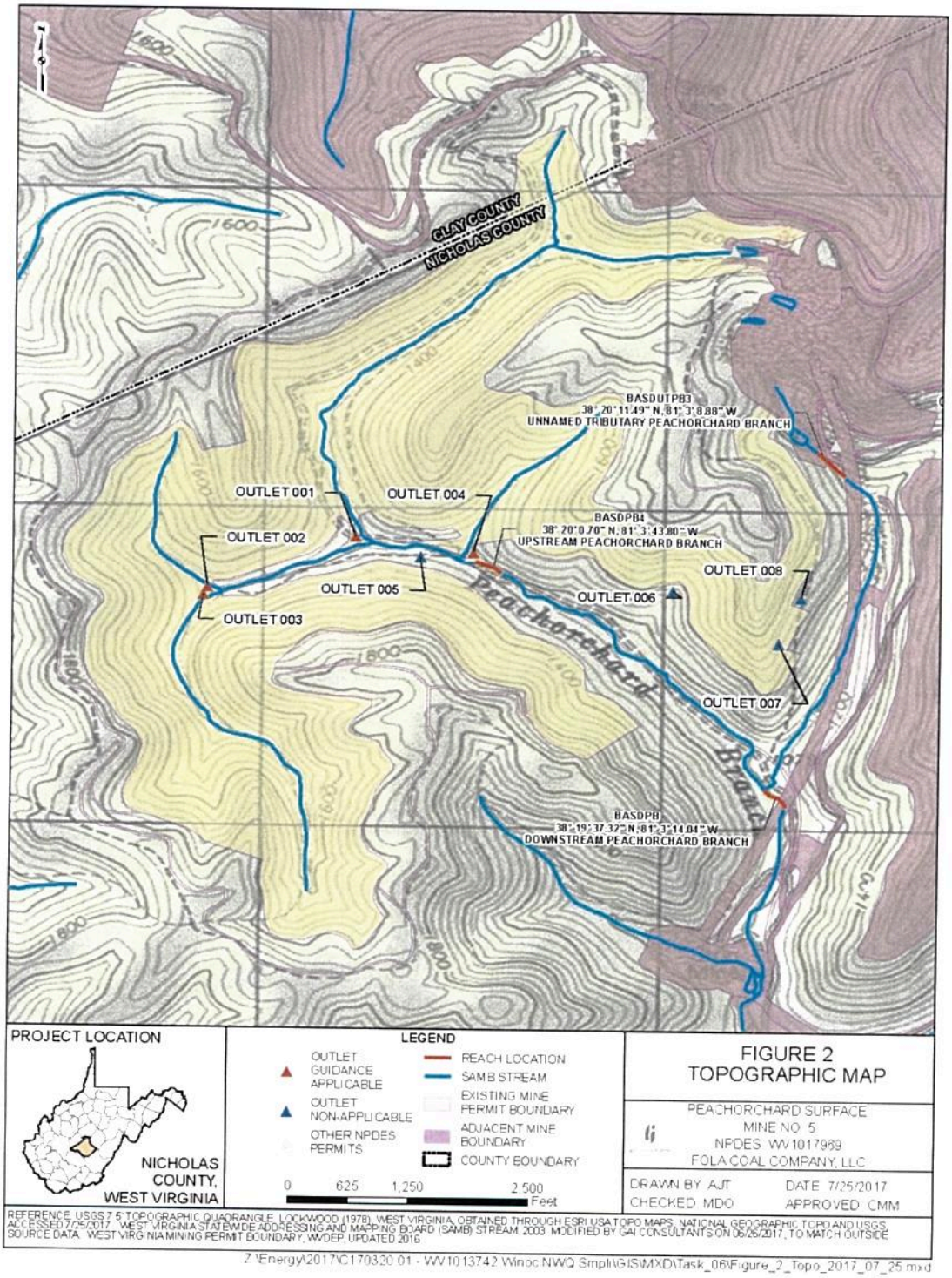
PEACHORCHARD SURFACE
MINE NO. 5
NPDES WV1017969
FOLA COAL COMPANY, LLC

DRAWN BY: AJT DATE: 7/25/2017
CHECKED: MDO APPROVED: CMM

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: LOCKWOOD (1979), WEST VIRGINIA, OBTAINED THROUGH ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESSED 7/25/2017. WEST VIRGINIA MINING PERMIT BOUNDARY, WVDEP, UPDATED 2016

Z:\Energy\2017\C170320.01 - WV1013742 Winoc NWQ Smpl\GIS\MXD\Task_06\Figure_1_Project_Vicinity_2017_07_25.mxd

Outlets 001 and 004 discharge into Peachorchard Branch, as shown on the following



map:

In the fall of 1999 and spring of 2000, prior to mining activities in the Peachorchard Branch watershed, Fola sampled the baseline water quality and biological integrity in the streams in that watershed at Station numbers Fola-39 through Fola-47 and found the following:

Table A—Pre-mining Sampling					
Station	**Conductivity 11/18/99**	**Conductivity 3/8/00**	**Sulfate 11/18/99**	**Sulfate 3/8/00**	**WVSCI**
39	279	165	96	48	81
40	48	79	15	23	76
41	Dry	Dry	Dry	Dry	Dry
42	72	73	17	19	81
43	131	100	30	29	85
44	150	115	36	27	97
45	72	99	13	7	87
46	72	50	9	9	88
47	120	47	7	6	78

2003 Permit App., Part J at 206.126, 206.127, 206.150, 206.151. Thus, all of these stations had low conductivity, low sulfate, and high WVSCI scores. Fola also reported that the baseline average surface water quality at three stations in this watershed (PODN, POUP, and DNPB) was 150-315 mhos for conductivity and 25-204 ppm for sulfate. *Id.* at 177.2, 176.65. According to WVDEP's April 8, 2004 Cumulative Hydrologic Impact Assessment for S201398 (pp. 6, 9), PODN is the threshold monitoring point for all mining activities in Peachorchard Branch, and DNPB and POUP were located upstream and downstream of six of the proposed NPDES outlets for this mine. The coordinates for PODN (38° 20' 02", 81° 03' 57") are very close to those for BASDPB4 (38° 19'59.4", 81° 03' 43.3"). See p. 6 below.

Southeastern's discharge monitoring reports since July 2016 show that it discharged the following maximum amounts of specific conductance (Cond), pH, calcium (Ca), magnesium (Mg), sodium (Na), potassium (K), sulfates (SO_4) and total dissolved solids (TDS) from Outlet 001:

Table B—Outlet 001								
	Cond	**pH**	**Ca**	**Mg**	**Na**	**K**	**SO_4**	**TDS**
Jul-16	2430	7.57	199	145	152	12.2	1360	2010
Aug-16	2000	7.76	160	121	119	10.8	1030	1410
Sep-16	2790	8.17	233	181	241	14.1	1700	2450
Oct-16	2920	7.68	233	180	225	14.5	1680	2490
Nov-16	2750	7.7	209	168	211	14	2380	2250
Dec-16	2880	7.87	221	191	247	14.6	3360	2530
Jan-17	2470	7.65	187	138	181	11.8	1370	1930
Feb-17	2510	7.72	210	168	178	12.4	1440	2110
Mar-17	2250	7.24	229	160	82.3	11	1340	1920
Apr-17	2160	7.4	215	154	56.6	10.6	1350	1810
May-17	2270	7.6	225	157	55.9	10.6	1370	2040
Jun-17	2650	7.73	252	180	68.1	13.5	1620	2850

Southeastern's discharge monitoring reports since July 2016 show that it discharged the following maximum amounts of the same pollutants from Outlet 004:

Table C—Outlet 004								
	Cond	pH	Ca	Mg	Na	K	SO_4	TDS
Jul-16	2220	7.29	174	142	137	11.4	3000	1910
Aug-16	2380	7.46	134	110	113	8.44	1310	1870
Sep-16	2670	7.32	189	47.7	427	13.1	1500	2040
Oct-16	2500	7.9	175	93.1	284	12.3	1920	1890
Nov-16	2170	7.73	118	123	199	10.7	1150	1600
Dec-16	1940	7.89	129	132	144	10.2	1030	1570
Jan-17	2270	7.27	153	115	186	10.1	1260	1770
Feb-17	2760	7.71	171	102	348	12.8	2670	2360
Mar-17	2550	8.04	164	163	175	10.9	2250	2130
Apr-17	2690	6.9	129	100	231	9.98	1490	2090
May-17	2560	7.48	156	124	269	11.4	1480	2190
Jun-17	3280	7.7	160	28.5	545	11.6	1520	2470

In 2012, 2015, 2016, and 2017, Fola's consultants conducted benthic macroinvertebrate, instream habitat, and water quality sampling at three biological assessment stations (BAS) at the Peachorchard Surface Mine No. 5. Station BASDUTPB3 was located in an unnamed tributary of Peachorchard Branch, upstream of its confluence with Peachorchard Branch. Station BASDP84 was located in Peachorchard Branch, downstream of Outlets 001 and 004. Station BASDPB was located in Peachorchard Branch, downstream of its confluence with the unnamed tributary of Peachorchard Branch. These three locations are shown on the map on page 4 above. Station BASDUTPB3 was the upstream station least affected by mining activities, Station BASDP84 was downstream of and closest to the two mine outlets, and Station BASDPB was further downstream from those outlets.

The consultants reported the following results from their sampling:

Table D—Post-mining Sampling				
Station	Date	Habitat Score	WVSCI Score	Conductivity
BASDUTPB3	4/23/12	151	**37.6**	872
	4/21/15	146	**50.7**	365
	4/25/16	147	**70.2**	423
	4/25/17	155	75.1	350
BASDPB4	4/23/12	137	**34.6**	999
	4/21/15	137	**62.9**	1090
	4/25/16	138	**50.9**	2020
	4/25/17	143	**59.8**	2043
BASDPB	4/23/12	172	72.6	923

	4/21/15	147	74.5	1140
	4/25/16	144	**55.0**	1628
	4/25/17	140	**62.4**	1203

According to WVDEP's draft 2016 Section 303(d) List (p. 8), streams are biologically impaired when their West Virginia Stream Condition Index (WVSCI) scores are below 72. Most of the reported scores were below that threshold. The habitat scores at all three stations were in the sub-optimal range and all stations "demonstrate[d] adequate epifaual substrate and an abundance of riffle suitable for benthic macroinvertebrate colonization and potential fish spawning." 2017 Report at 7. Therefore, the low WVSCI scores cannot be explained by poor habitat.

In 2011, EPA scientists summarized the existing science connecting conductivity and biological degradation in an EPA report entitled, "A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams." That report, which was peer-reviewed by top scientists on EPA's Science Advisory Board, used EPA's standard method for deriving water quality criteria to derive a conductivity benchmark of 300 µS/cm. *Id.* at xiv-xv. According to the species sensitivity distribution in the benchmark, on average, five percent of species are lost when conductivity rises to 295 µS/cm, over 50% are lost at 2000 µS/cm, and close to 60% are lost at 3000 µS/cm. *Id.* at 18. EPA considered potential confounding factors, including habitat, temperature, deposited sediments and pH, and concluded that none of them altered the relationship between conductivity and biological decline or the benchmark value of 300 µS/cm. Id. at 41, B-22. EPA found that the loss of aquatic species from increased conductivity was "a severe and clear effect." *Id.* at A-37. EPA also conducted a detailed causal assessment and concluded that there is a causal relationship between conductivity and stream impairment in West Virginia. *Id.* at A-39. Finally, EPA's benchmark report analyzed the relationship between the WVSCI biological impairment threshold and conductivity levels, and found that a WVSCI score of 64 (close to the impairment threshold of 68) corresponds to streams with conductivity of about 300 µS/cm on average. *Id.* at A-36. A statistical analysis included in the benchmark determined that at a conductivity level of 300 µS/cm a stream is 59% likely to be impaired and at 500 µS/cm a stream is 72% likely to be impaired. *Id.*

The ions found coming out of Outlets 001 and 004 are consistent with those associated with coal mining pollution in this region (Pond et al. 2008; Palmer et al. 2010; Bernhardt and Palmer 2011; Lindberg et al. 2012; Pond et al. 2010; Pond et al. 2012; Pond et al. 2014; Kunz 2013). The ionic mixture of calcium, magnesium, sulfate, and bicarbonate in alkaline mine water causes the loss of aquatic macroinvertebrates in Appalachian areas where surface coal mining is prevalent; it is the mixture of ions that causes the biological impairment (Cormier et al. 2013b; Cormier and Suter 2013). This mixture also has significant adverse effects on fish assemblages (Hitt 2014; Hopkins 2013) and has toxic effects on aquatic life, including mayflies (Kunz 2013; Echols 2010; Kennedy 2004).

Bernhardt et al. (2012) concluded that:

> The extent of surface mining within catchments is highly correlated with the ionic strength and sulfate concentrations of receiving streams. Generalized additive models

were used to estimate the amount of watershed mining, stream ionic strength, or sulfate concentrations beyond which biological impairment (based on state biocriteria) is likely. We find this threshold is reached once surface coal mines occupy >5.4% of their contributing watershed area, ionic strength exceeds 308 $\mu S\ cm^{-1}$, or sulfate concentrations exceed 50 $mg\ L^{-1}$.

A 2016 study using simulated mine effluents in an experimental stream under controlled conditions measured the same adverse effects on aquatic organisms at conductivity levels of 300 µS/cm and lower (Clements and Kotalik 2016).

Southeastern's Peachorchard Surface Mine No. 5 is a major development activity covering a majority of the area in the Peachorchard Branch watershed. The high mining intensity in that watershed and the related discharges from Outlets 001 and 004 have likely caused or materially contributed to biological impairment in downstream waters and Twentymile Creek.

In sum, the available evidence shows that, as a result of mining operations at its Peachorchard Surface Mine No. 5, Peachorchard Branch has elevated chemical ions, including sulfate, calcium, and magnesium, measured as increased conductivity, and biologically impaired aquatic life. Southeastern is discharging high levels of ionic pollutants, measured as conductivity, from Outlets 001 and 004 that are causing or materially contributing to biological impairment and violations of the narrative water quality standard for biological integrity in Peachorchard Branch.

II. Legal Claims

A. CWA

The CWA authorizes citizens to sue "any person . . . who is alleged to be in violation of . . . an effluent standard or limitation under this chapter." 33 U.S.C. § 1365(a)(1). An "effluent standard or limitation under this chapter" is defined to include "a permit or condition thereof." *Id.*, § 1365(f)(6). A person who violates a condition of an NPDES permit is therefore in violation of the CWA and subject to a citizen enforcement action under the CWA. Based on the available evidence of continuing high conductivity levels, and the absence of any corrective measures taken by Southeastern since it purchased the mine from Fola in July 2016, we believe that Southeastern's violations of the narrative water quality standards in 47 C.S.R. § 2-3.2.e & i. are violations of its permit and can be enforced by WV Environmental Groups. The federal court in West Virginia has repeatedly enforced this same standard against mines with similar violations. *See OVEC v. Elk Run Coal Co.*, 24 F. Supp. 3d 532 (S.D. W.Va. 2014); *OVEC v. Fola Coal Co., LLC (Stillhouse)*, 82 F. Supp. 3d 673 (S.D. W.Va. 2015), *aff'd*, 845 F.3d 133 (4th Cir. 2017); *OVEC v. Fola Coal Co. (Leatherwood)*, 120 F. Supp. 3d 509 (S.D. W.Va. 2015); *OVEC v. Fola Coal Co. (Monoc)*, 2017 WL 2312478 (S.D. W.Va. 2017). If Southeastern does not cease those violations within 60 days, we intend to bring a citizen suit against Southeastern under Section 505(a)(1) of the CWA seeking declaratory and injunctive relief.

B. SMCRA

Section 520(a)(1) of SMCRA authorizes citizens to commence civil actions against any person alleged to be in violation of rules, orders, or permits issued pursuant to SMCRA. 30 U.S.C. § 1270(a)(1). West Virginia has a federally-approved mining program under SMCRA which is administered by the WVDEP pursuant to the WVSCMRA. Violations of a federally-approved state program are enforceable in federal court under SMCRA's citizen suit provision. *Molinary v. Powell Mountain Coal Co., Inc.*, 125 F.3d 231, 237 (4th Cir. 1997). We believe that Southeastern is in continuous and ongoing violation of the state and federal performance standards that prohibit mining operations from causing violations of water quality standards. 38 C.S.R. § 2-14.5.b; 30 C.F.R. § 816.42. In addition, Southeastern's mining operations have resulted in impermissible and ongoing material damage to the hydrologic balance, in violation of 38 C.S.R. § 2-14.5. Southeastern is also in continuing violation of its legal duty to treat its effluent to ensure that it does not violate water quality standards. 38 C.S.R. § 2-14.5.c; 30 C.F.R. § 816.41(d)(1). These standards require Southeastern to construct systems that will effectively treat its effluent to levels that comply with all applicable water quality standards. Finally, Southeastern's violations of the performance standards that prohibit violations of water quality standards and material damage and that require adequate treatment to avoid such violations are violations of its mining permit S201398. By operation of 38 C.S.R. § 2-33.c, those permits incorporate the performance standards discussed in this letter as terms of the permits themselves. Consequently, Southeastern is violating its SMCRA permit.

CONCLUSION

If Southeastern has taken any steps to eradicate the underlying cause of the violations described above, or if Southeastern believes that anything in this letter is inaccurate, please let us know. If Southeastern does not advise us of any remedial steps during the 60-day period, we will assume that no such steps have been taken and that violations are likely to continue. Additionally, we would be happy to meet with Southeastern or its representatives to attempt to resolve these issues within the 60-day notice period.

Sincerely,

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